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Key Findings:

Cost of Alternatives

- There are multiple alternatives to polystyrene which include plastic, paper, cardboard, and compostable options, all with different price points which have been laid out below
- [Cost of alternatives from Somerville](#)
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Product	Polystyrene Cost/Unit	PET Plastic Cost/Unit	Paper- Cardboard/Unit	Compostable /Unit	Vendor
9" Plate	0.05	0.25	0.11	0.10	Sam's
12 Oz. Bowl	0.03	N/A	0.06	0.10	Sam's
16 Oz. Cup	0.04	0.08	0.08	0.06	Sam's
To-Go One Compartment	0.09	0.17	0.17	0.17	Sam's
Spoon	N/A	0.02	N/A	0.04	Sam's
Fork	N/A	0.02	N/A	0.04	Sam's
Knife	N/A	0.02	N/A	0.04	Sam's
9" Plate	0.03	0.20	0.02	0.08	Webstaurant
12 Oz. Bowl	0.03	0.06	0.10	0.05	Webstaurant
16 Oz. Cup	0.05	0.05	0.04	0.06	Webstaurant
To-Go One Compartment	0.08	0.16	0.20	0.18	Webstaurant
Spoon	N/A	0.02	N/A	0.04	Webstaurant
Fork	N/A	0.02	N/A	0.04	Webstaurant
Knife	N/A	0.02	N/A	0.04	Webstaurant

*Data from a study completed by Fayetteville, Arkansas

Polystyrene Foam Take-Out Packaging and Price Comparable Alternatives

Product	Polystyrene Product	Unit Cost	Non-Foam Product	Unit Cost	Cost Difference
10 oz Cold Cup 10 oz Hot Cup	Foam - Dart Container 1000 ct	\$20.20	Plastic - Dart Container 2500 ct	\$60.96	\$0.02
	Foam - Dart Container 1000 ct	\$20.20	Paper - Choice 1000 ct	\$36.53	\$0.04
12 oz Cold Cup 12 oz Hot Cup	Foam - Dart Container 1000 ct	\$22.09	Plastic - Dart Container 1000 ct	\$24.90	\$0.02
	Foam - Dart Container 1000 ct	\$22.09	Paper - Choice 1000 ct	\$40.39	\$0.04
16 oz Cold Cup 16 oz Hot Cup	Foam - Dart Container 1000 ct	\$31.91	Plastic - Dart Container 1000 ct	\$35.37	\$0.03
	Foam - Dart Container 1000 ct	\$31.91	Paper - Choice 1000 ct	\$44.03	\$0.04
12 oz Bowl	Foam - Dart Container 500 ct	\$17.63	Plastic - Genpak 1000ct	\$48.99	\$0.05
16 oz Bowl	Foam - Dart Container 500 ct	\$19.65	Plastic - Genpak 1000ct	\$63.99	\$0.06
6" Plate	Foam - Dart Container 1000 ct	\$13.08	Paper - AJM Packaging 1000 ct	\$7.53	\$0.007
9" Plate	Foam - Dart Container 500 ct	\$19.37	Paper - AJM Packaging 1000 ct	\$11.49	(\$0.03)
6" Hinge Container	Foam - Dart Container 500 ct	\$17.13	Plastic - Dart 500ct	\$28.18	\$0.06
9" Hinge Container	Foam - Dart Container 200 ct	\$12.64	Plastic - Duralock 250ct	\$25.94	\$0.10
Average Cost Difference					\$0.01

All prices from The WEBstaurant Store, July 2012.
Lower prices (up to 25% less) may be obtainable through cooperative purchasing.



Examples of Polystyrene Ban in Massachusetts

- As of June 2021, within Massachusetts, 52 cities and towns across 12 counties representing over one million people have already banned some form of polystyrene
 - This includes: Concord, Arlington, Cambridge, Amherst, Brookline, etc.
 - <https://concordma.gov/1629/Polystyrene-Ban-Bylaw>
 - <https://www.arlingtonma.gov/home/showdocument?id=46186>
 - <https://www.amherstma.gov/DocumentCenter/View/24818/Amherst-Foam-bylaw?bidId=>
- Could be helpful site for Massachusetts related legislation:
<http://www.massgreen.org/polystyrene-legislation.html>

Solutions for Businesses

- In past studies, businesses have shown to increase the cost of the items they sale (i.e. food if they are a restaurant) in order to accommodate for the increase of cost of the alternative materials
- A polystyrene ban will increase costs for businesses, so it is important to have certain measures in place to help out the small businesses that will be most affected. Some examples that have proven to effective in other towns include:
 - A phased roll out plan that allows businesses enough time to plan and prep for the ban

- Exemptions for businesses that do not have the capacity to implement the new measures
- Creating a purchasing co-op for small businesses to be able to bulk purchase and get discounts
- Have a list of local suppliers that businesses can use to buy the needed alternatives
- Offer financial incentives to businesses who enroll in composting programs to encourage reducing waste

Background Research

- The best alternatives to polystyrene are biodegradable, compostable bioplastics or paper; or highly recyclable aluminum.
- Other common plastic resins based on fossil fuels are also allowed under most proposed laws although these are difficult to recycle. Restaurants and cafeterias can always offer traditional reusable items that are washable.
- Study in Hawaii looked at several businesses that banned polystyrene and they found:
 - “In response to increased costs, a majority of respondents (76%) said that they increased prices to their customers. If there was a cost increase associated with the polystyrene ban, respondents stated that they would probably increase prices and/or charge for containers to offset the increased cost. This suggests that if there is a cost increase associated with the polystyrene ban, prices to local consumers may rise.”
- <https://www.fayetteville-ar.gov/DocumentCenter/View/19313/Styrofoam-Policy-Analysis-final>
 - Typically, the smaller the business, or the fewer polystyrene containers a business uses, the higher the cost to transition to alternative material containers
 - To aid businesses many cities provide lists of local suppliers that offer alternatives to polystyrene.

Policy Goal	Impact Description	Policy Option 1 - Status quo	Policy Option 2 - Ban on Restaurant Polystyrene	Policy Option 3 - Ban on Restaurant and Retail Use/Sales of Polystyrene
Environmental Benefit	Litter abatement	Negative	Positive	Very Positive
Lifecycle Benefit	Cost of the material over its useful life	Neutral	Unknown*	Unknown*
Education and Outreach	Expand awareness of polystyrene	Neutral	Positive	Very Positive
Political Feasibility	Likelihood of support of community	Neutral	Very Positive	Positive
Financial Feasibility	Impact on City budget	Neutral	Neutral	Neutral
Operation Feasibility	Impact on City time and resources for management	Neutral	Neutral	Neutral
Enforcement Feasibility	Costs of compliance	Neutral	Negative	Very Negative
Equity	Financial assistance or credits	Neutral	Negative	Negative
Economic Impact	Financial impact on Businesses	Neutral	Negative	Very Negative
Replicable Ordinance	Ease of Implementation and Minimization of Legal Exposure	Neutral	Negative	Very Negative

- [An Assessment of Policies on Polystyrene Food Ware Bans](#)
 - Implementing an EPS food ware ban in stages may offer the needed transition time for small local businesses to adjust.
 - Since small businesses may have limited access to bulk suppliers, a purchasing co-op could help small businesses purchase alternative products in bulk.
 - Considering offering financial incentives for businesses to enroll in a composting program would also encourage compliance and use of biodegradable/composting products.

- <https://www.sandiego.gov/environmental-services/recycling/pf-ban>

Preferred

Material	Product	Comments
Reusable service ware	Reusable plates, bowls and cups	Wash and reuse
Paper (uncoated or clay coated)	Bowls, plates, trays, cups, hinged containers, boxes	Recyclable if free of food
Aluminum	Trays, lidded containers, wrap	Recyclable if free of food
Plastic (rigid, non-foam)	Bowls, plates, trays, cups, lids, hinged containers	Recyclable if free of food

NOT Preferred

Material	Product	Comments
<ul style="list-style-type: none"> • Paper (coated with materials other than clay, for example, poly, PLA, or other materials) • "Compostable" and "biodegradeable" plastic, sugarcane, bagasse, bamboo, molded fiber and other similar items 	Bowls, plates, trays, cups, hinged containers, boxes, lids, wrap	Not Recyclable, must be placed in trash. Not accepted in local recycling or composting programs. Does not help San Diego reach its zero waste goals.

- [Fiscal & Economic Impacts of a Ban on Plastic Foam Foodservice and Drink Containers in New York City](#)
 - Total costs to replace plastic foam foodservice and drink containers and trays with the lowest cost alternative are estimated at \$91.3 million. This level translates into an effective minimum average cost increase of 94%. In other words, for every \$1.00 now spent on plastic foam foodservice and drink containers, NYC consumers and businesses will have to spend at least \$1.94 on the alternative replacements, effectively doubling the cost to businesses. This 94% is in effect an “environmental tax” far higher than any current sales tax or import duty rates affecting the cost of consumer products.